

STEREO MOC Status Report  
Time Period: 2014:265 - 2014:271

STEREO Ahead (STA) Status:

1. The following Ground System anomalies/events occurred during this reporting period:

- None.

2. The following spacecraft/instrument events occurred during this week. Note that the Ahead observatory is operating on the first side lobe of the HGA to prevent overheating of the HGA feed assembly.

- On day 267, the SECCHI instrument team tested the second side lobe real-time data rate of 1005 bps.
- The average daily science data return for Ahead, while operating on the first side lobe on the HGA, was 0.071 Gbits during this week.

STEREO Behind (STB) Status:

1. The following Ground System anomalies/events occurred during this reporting period:

- On day 271, during the DSS-14 support, for the first side lobe test track at the start of the Behind solar conjunction spacecraft testing, initial telemetry lock was 14 minutes late due to telemetry mis-configurations at the station. This anomaly resulted in the loss of 2.7 hours of spacecraft SSR data only.

2. The following spacecraft/instrument events occurred during this week:

- On day 270, final preparations for testing the solar conjunction configuration on the Behind observatory were conducted. The IMPACT instrument suite ramped down the necessary high voltages and the SECCHI COR1 and 2 covers were closed. The remaining science data on the SSR was played back. The necessary spacecraft bus telemetry configurations for side lobe operations were loaded to C&DH

RAM and verified. In accordance with the solar conjunction entry procedure, a final snapshot of the analog diagnostic data in the data summary table was dumped. The PLASTIC and IMPACT instrument suites were powered down at 1800z and the SECCHI instrument at 1805z. The SWAVES instrument remained on as it will for the actual solar conjunction. Reduced gyro operations are continuing and G&C control gains were adjusted for lack of SECCHI guide telescope input. The timetag commands for the 67<sup>th</sup> momentum dump with ignition at 271-1630z were loaded and verified.

- On day 271, solar conjunction spacecraft testing continued with operations on the first side lobe and simulated entry into solar conjunction on the Behind observatory. At AOS of the 1530z support with DSS-14, the downlink was acquired on the first HGA side lobe at the 10 kbps downlink rate with 2.2 dB margin. Due to the low elevation and low ranging margin on BEHIND side lobes, ranging lock could not be obtained. As periodic momentum dumps will be necessary during side lobe operations, the 67<sup>th</sup> momentum dump executed with ignition at 1630z successfully with the system momentum target set low for rotating during solar conjunction. To simulate solar conjunction entry and test the modified safing mode on orbit, the Behind observatory was reset at 1730z. The SSR was not emptied before resetting due to the low downlink rate and as a result 6.4 hours of SWAVES SSR data was lost from 1110z through 1735z and 2.7 hours of spacecraft housekeeping data was lost as well. The DSN reacquired the downlink on the second side lobe at the 633 bps downlink rate using a second DSN receiver channel at 1752z as expected. The spacecraft autonomously recovered into C&DH standby mode nominally, with the exception of the star tracker, which promoted to AAD mode 12 minutes late. As designed, with the lack of star tracker data, IMU-A was powered on by the fault protection system to ensure stable G&C performance and remained on for 2.2 hours. This was the 3<sup>rd</sup> occurrence since launch of the Behind star tracker not promoting to AAD mode after it was reset. The Behind HGA feed temperature cooled to 61.2 deg C on the second HGA side lobe.
- The average daily SSR playback volume for Behind was 2.9 Gbits during this week.